

L Number	Hits	Search Text	DB	Time stamp
1	1152	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.	USPAT; US-PGPUB	2003/05/07 10:17
2	98	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and polycarbonate\$	USPAT; US-PGPUB	2003/05/07 11:46
3	283	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and carbonate\$	USPAT; US-PGPUB	2003/05/07 11:47
4	209	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and carbonate\$; not ((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and polycarbonate\$;	USPAT; US-PGPUB	2003/05/07 11:47
5	0	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and carbonate\$; not ((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and polycarbonate\$)	USPAT; US-PGPUB	2003/05/07 10:47
6	38	((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and carbonate\$; not ((528/405) or (528/421) or (528/410) or (528/413) or (528/414) or (528/416)).CCLS.) and polycarbonate\$)	USPAT; US-PGPUB	2003/05/07 10:58
7	298	(528/371).CCLS.	USPAT; US-PGPUB	2003/05/07 10:58
8	0	("17 and (carbon adj dioxide)").PN.	USPAT; US-PGPUB	2003/05/07 10:58
9	50	((528/371).CCLS.) and (carbon adj dioxide)	USPAT; US-PGPUB	2003/05/07 10:59

L Number	Hits	Search Text	DB	Time stamp
1	1237	((502/102) or (502/154) or (502/156)).CCLS.	USPAT; US-PGPUB	2003/05/06 16:41
2	39	((502/102) or (502/154) or (502/156)).CCLS.) and polycarbonate\$	USPAT; US-PGPUB	2003/05/06 16:52
3	198	((502/102) or (502/154) or (502/156)).CCLS.) and carbonate\$	USPAT; US-PGPUB	2003/05/06 16:53
4	174	((502/102) or (502/154) or (502/156)).CCLS.) and carbonate\$) not (((502/102) or (502/154) or (502/156)).CCLS.) and polycarbonate\$)	USPAT; US-PGPUB	2003/05/06 16:53

L20 ANSWER 16 OF 57 CA COPYRIGHT 2003 ACS

AN 134:131940 CA

TI Process for preparing high-molecular-weight aliphatic polycarbonates

IN Zhao, Xiaojiang; Liu, Binyuan; Wang, Xianhong; Zhao, Daqing; Wang, Fusong

PA Changchun Inst. of Applied Chemistry, Chinese Academy of Sciences, Peop.
Rep. China

SO Faming Zhuanli Shengqing Gongkai Shucuningshu, 5 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C08G064-02

ICS C08G064-34

CC 35-3 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1257885	A	20000628	CN 1998-125655	19981224
PRAI	CN 1998-125655		19981224		

AB Epoxides react with CO₂ in solns. contg. rare earth compds. and organometallic compds. to prep. polycarbonates. Thus, propylene oxide and

CO₂ were polymd. in a soln. contg. Y trichloroacetate-ZnEt₂-glycerol to prep. a polycarbonate.

ST polycarbonate carbon dioxide epoxide copolymer; catalyst polymn yttrium zinc glycerol

IT Rare earth compounds

FL: CAT (Catalyst use); USES (Uses)

(catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT Ethers, uses

FL: NUU (Other use, unclassified); USES (Uses)

(cyclic; catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT Alcohols, uses

RL: CAT (Catalyst use); USES (Uses)

(polyhydric; catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT Epoxides

FL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)

(polymers with carbon dioxide; catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT Polymerization catalysts

(ring-opening; catalysts contg. rare earth compds. and organometallic compds. for polymn. of carbon dioxide and epoxides)

IT 56-81-5, Glycerol, uses 57-55-6, 1,2-Propanediol, uses 107-21-1,

Ethylene glycol, uses 112-27-6, Triethylene glycol 112-60-7,

Tetraethylene glycol 504-63-2, 1,3-Propanediol 557-20-0, Diethylzinc

20101-72-8, Yttrium dichloroacetate 20101-73-9, Yttrium

trichloroacetate 29770-44-3, Neodymium trifluoroacetate

FL: CAT (Catalyst use); USES (Uses)

(catalysts contg. rare earth compds. and organometallic compds. for

polymn. of carbon dioxide and epoxides)
IT 25511-85-7P, Carbon dioxide-propylene oxide copolymer 25608-11-1P,
Carbon dioxide-ethylene oxide copolymer
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical
process); PREP (Preparation); PROC (Process)
(catalysts contg. rare earth compds. and organometallic compds. for

L20 ANSWER 19 OF 57 CA COPYRIGHT 2003 ACS
 AN 132:334842 CA
 TI Copolymerization of carbon dioxide, propylene oxide, and cyclohexene
 oxide
 by a yttrium-metal coordination catalyst system
 AU Tan, Chung-Sung; Chang, Char-Fu; Hsu, Tsung-Ju
 CS Department of Chemical Engineering, National Tsing Hua University,
 Hsinchu, 30043, Taiwan
 SO (Preprints - American Chemical Society, Division of Petroleum Chemistry
 (2000), 45(1), 100-103)
 CODEN: ACPCAT; ISSN: 0569-3799
 PB American Chemical Society, Division of Petroleum Chemistry
 DT Journal
 LA English
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB Aliph.-cycloaliph. polycarbonates could be produced effectively by
 ring-opening copolymn. of cyclohexene oxide and propylene oxide with CO2
 using a cocatalyst system of Y(F3CCO2H)3, Et2Zn, and glycerol.
 ST polycarbonate propylene oxide cyclohexene oxide based; cycloaliph aliph
 polycarbonate prepn yttrium catalyst; ring opening polymn catalyst
 polycarbonate prepn
 IT Polycarbonates, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (aliph., cycloaliph.-; prepn. using yttrium-based polymn. catalysts)
 IT Polymerization catalysts
 (ring-opening; for copolymn. of cyclohexene oxide and propylene oxide
 with carbon dioxide)
 IT 56-81-5, Glycerol, uses 557-20-0, Diethylzinc 10361-93-0, Yttrium
 trinitrate 15554-47-9, Yttrium tris(acetylacetonate) 23363-14-6,
 Yttrium triacetate **37737-28-3**, Yttrium tris(trifluoroacetate)
 114012-65-6, Yttrium tris(2-ethylhexanoate)
 RL: CAT (Catalyst use); USES (Uses)
 (in catalysts for copolymn. of cyclohexene oxide and propylene oxide
 with carbon dioxide)
 IT 119727-39-8P, Carbon dioxide-cyclohexene oxide-propylene oxide copolymer
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. using yttrium-based polymn. catalysts)
 RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1

applied

(FILE 'HOME' ENTERED AT 12:21:35 ON 07 MAY 2003)

FILE 'REGISTRY' ENTERED AT 12:21:44 ON 07 MAY 2003

L1 0 S NEODYMIUM TRICHLOROACETATE/CN
L2 1 S NEODYMIUM AND TRICHLOROACETATE?
L3 3 S YTTRIUM AND TRIFLUOROACETATE?
L4 1 S YTTRIUM AND DICHLOROACETATE?
L5 3 S L2 OR L4 OF 37737-28-3/RN
L6 1 S ETHYLENE CARBONATE/CN
L7 1 S PROPYLENE CARBONATE/CN
L8 0 S CYCLOHEXYLENE CARBONATE/CN
L9 777 S CYCLOHEXYL? AND CARBONATE?
L10 2081 S C7H12O3/MF
L11 0 S L9 AND L10
L12 1506 S C7H12O3/MF
L13 5 S L12 AND L9
L14 1 S 4389-22-4/RN
L15 0 S CARBON DIOXIDE/CN
L16 1 S CARBON DIOXIDE/CN
L17 300 S 124-38-9/CN AND PC/PCT

FILE 'CA' ENTERED AT 12:33:00 ON 07 MAY 2003

L18 58 S L5
L19 1 S L18 AND (L6 OR L7 OR L14)
L20 57 S L18 NOT L19
L21 23 S L17 AND (L6 OR L7 OR L14)
L22 184 S (L6 OR L7 OR L14) AND POLYCARBONATE?
L23 23 S L22 AND (L16 OR CO2 OR CARBONDIOXIDE OR CARBON(W)DIOXIDE)
L24 8 S L23 NOT L21

L20 ANSWER 20 OF 57 CA COPYRIGHT 2003 ACS
 AN 132:93838 CA
 TI Ring-opening polymerization of lactone under catalysis of rare-earth compound
 IN Yuan, Minglong; Deng, Xianmo; Xiong, Chengdong
 PA Chengdu Institute of Organic Chemistry, Chinese Academy of Sciences, Peop.

Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 11 pp.
 CODEN: CNXKEV

DT Patent
 LA Chinese
 IC ICM C08G065-10
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 29, 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1175601	A	19980311	CN 1996-117690	19960904
PFAI	CN 1996-117690		19960904		
OS	MARPAT 132:93838				
GI					

O

(R²C)_n O

O

O (R²C)_m

C

(R²C)_n O

I

O

II

AB The polymn. of lactone is carried out at 100-250.degree. for 10-3000 min in inert gas or vacuum in presence of catalysts of rare-earth org. carboxylate (LnZ₃) or halogenated org. carboxylate, where Ln is Sc, or Y or one of lanthanide, Z is org. acid radical or halogenated org. acid radical (HCOO-, CH₃COO-, CH₃CH₂COO-, CH₃CH₂CH₂COO-, ClCH₂COO-, CCl₃COO-, CF₃COO-, C₆H₅-COO-, -OOCCH₂CH₂COO-, BrCH₂COO-). The molar ratio of monomer to catalyst is 200-20000. The lactone has structural formula I

or

II, where n = 3-5, R is H or alkyl group, h or m = 1 or 2; and may be ε-L-lactide, ε-caprolactone, glycolide, and 3-methyl-glycolide. The polymn. comprises homopolymn. and copolymn. between lactones or lactones and polyether, and the polyether is selected from polyethylene glycol, polypropylene glycol, and polybutylene glycol.

ST lactone polymn rare earth carboxylate catalysis; ring opening polymn lactone lanthanum catalyst

IT Rare earth compounds

FL: CAT (Catalyst use); USES (Uses)

under (carboxylic acid salts, catalyst; ring-opening polymn. of lactone
catalysis of rare-earth compd.)

IT Polyethers, preparation
Polyethers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
polyester-; ring-opening polymn. of lactone and polyether under
catalysis of rare-earth compd.)

IT Polyesters, preparation
Polyesters, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
polyether-; ring-opening polymn. of lactone and polyether under
catalysis of rare-earth compd.)

IT Polyesters, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(ring-opening polymn. of lactone under catalysis of rare-earth compd.)

IT Polymerization catalysts
(ring-opening; ring-opening polymn. of lactone under catalysis of
rare-earth compd.)

IT 24980-41-4P, .epsilon.-Caprolactone homopolymer 26202-08-4P, Glycolide
homopolymer 26684-10-4P 26780-50-7P, Glycolide-D,L-lactide copolymer
41706-81-4P, .epsilon.-Caprolactone-Glycolide copolymer 57321-94-5P
70524-20-8P, .epsilon.-Caprolactone-D,L-lactide copolymer 119388-27-1P
RL: IMF (Industrial manufacture); PREP (Preparation)
(ring-opening polymn. of lactone under catalysis of rare-earth compd.)

IT 537-03-1, Lanthanum oxalate 917-70-4, Lanthanum acetate 2081-11-0,
Lanthanum formate 14518-63-9, Lanthanum benzoate 16922-04-6, Samarium
acetate 20101-71-7 20101-73-9 20325-14-8 20532-74-5 23363-14-6,
Yttrium acetate 25681-97-4, Lanthanum propionate 25682-05-7
42138-71-6, Neodymium trichloroacetate 42181-51-1 70236-92-9,
Lanthanum trifluoroacetate 70236-99-6 254989-96-3
RL: CAT (Catalyst use); USES (Uses)
(ring-opening polymn. of lactone under catalysis of rare-earth compd.)

L20 ANSWER 21 OF 57 CA COPYRIGHT 2003 ACS
 AN 131:272231 CA
 TI Controlled synthesis of L-lactide-b-epsilon-caprolactone block copolymers using a rare earth complex as catalyst
 AU Zhong, Zhiyuan; Yu, Donghong; Meng, Fenghua; Gan, Zhihua; Jing, Xiabin
 CS Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
 SO Polymer Journal (Tokyo) (1999), 31(8), 633-636
 CODEN: POLJBE; ISSN: 0032-3896
 PB Society of Polymer Science, Japan
 DT Journal
 LA English
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB Well defined diblock copolymers of L-lactide-b-epsilon-caprolactone were synthesized by sequential polymn. using (CF3CO2)3Y/iso-Bu3Al3 as the catalyst system. The comps. of the copolymers could be adjusted by manipulating the comonomer feed ratios. Characterizations by GPC, 1H NMR, 13C NMR, and DSC indicated that the block copolymer had a narrow mol. wt. distribution and well controlled sequences without random placement.
 ST lactide caprolactone block polymn catalyst; yttrium fluoroacetate catalyst
 block polymn; aluminum alkyl catalyst block polymn; ring opening block polymn catalyst; polyester diblock prepn rare earth catalyst
 IT Polyesters, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (block, diblock, lactide; controlled synthesis using rare earth complex catalyst)
 IT Polymerization catalysts
 (block; controlled diblock polymer synthesis using rare earth complex catalyst)
 IT Polyesters, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (caprolactone-based, block, diblock; controlled synthesis using rare earth complex catalyst)
 IT Polyesters, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (lactide, block, diblock; controlled synthesis using rare earth complex catalyst)
 IT Polymerization catalysts
 (ring-opening; controlled diblock polymer synthesis using rare earth complex catalyst)
 IT 37737-28-3, Yttrium tris(trifluoroacetate)
 RL: CAT (Catalyst use); USES (Uses)
 (controlled diblock polymer synthesis using rare earth complex catalyst)
 IT 100-99-2, Triisobutylaluminum, uses
 RL: CAT (Catalyst use); USES (Uses)
 (controlled diblock polymer synthesis using rare earth complex catalyst contg.)
 IT 111821-20-6P, epsilon-Caprolactone-L-lactide block copolymer
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (diblock; controlled synthesis using rare earth complex catalyst)
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

L20 ANSWER 25 CF 57 CA COPYRIGHT 2003 ACS
 AN 129:167785 CA
 TI A novel rare earth coordination catalyst for polymerization of
 biodegradable aliphatic lactones and lactides
 AU Zhang, Jie; Gan, Zhihua; Zhong, Zhiyuan; Jing, Xiabin
 CS College of Science, Jilin University of Technology, Changchun, 130025,
 Peop. Rep. China
 SO Polymer International (1993), 45(1), 60-66
 CODEN: PLYIEI; ISSN: 0959-3103
 PB John Wiley & Sons Ltd.
 DT Journal
 LA English
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 AB A novel rare earth coordination system composed of lanthanide
 trifluoroacetates $\text{Ln}(\text{CF}_3\text{COO})_3$ ($\text{Ln} = \text{Y}, \text{Yb}, \text{Nd}, \text{Tm}, \text{Ho}, \text{La}, \text{Pr}$) and
 triisobutylaluminium $\text{Al}(\text{i-Bu})_3$ was used as catalyst for the polymn. of
 .epsilon.-caprolactone (CL), D,L-lactide (DLLA) and their copolymn. The
 influence of temp., time and catalyst concn. on polymn. yields and mol.
 wts. of the polyesters have been studied. The ring-opening polymn. of
 cyclic esters catalyzed by $\text{Ln}(\text{CF}_3\text{COO})_3/\text{Al}(\text{i-Bu})_3$ has some living
 character
 and the mol. wt. of the polyester could be controlled by adjusting the
 molar ratio of monomer to catalyst. The DLLA/CL copolymer was
 synthesized
 by sequential addn. of monomers and the structure of the copolyester was
 characterized by GPC, NMR and DSC.
 ST lanthanide trifluoroacetate catalyst caprolactone lactide polymn;
 triisobutylaluminium lanthanide trifluoroacetate polymn catalyst;
 biodegradable polyester caprolactone lactide polymn catalyst; rare earth
 coordination catalyst lactide polymn; ring opening polymn caprolactone
 lactide polyester
 IT Polymers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (biodegradable; novel rare earth coordination catalyst for polymn. of
 biodegradable aliph. lactones and lactides)
 IT Polyesters, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (novel rare earth coordination catalyst for polymn. of biodegradable
 aliph. lactones and lactides)
 IT Molecular weight
 (of biodegradable aliph. lactones and lactide polymers)
 IT Polymerization
 Polymerization catalysts
 (ring-opening; novel rare earth coordination catalyst for polymn. of
 biodegradable aliph. lactones and lactides)
 IT 24980-41-4P, .epsilon.-Caprolactone homopolymer 25248-42-4P,
 .epsilon.-Caprolactone homopolymer, sru 26023-30-3P, D,L-Lactide
 homopolymer, sru 26680-10-4P, D,L-Lactide homopolymer 70524-20-8P,
 .epsilon.-Caprolactone-D,L-lactide copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (novel rare earth coordination catalyst for polymn. of biodegradable
 aliph. lactones and lactides)
 IT 100-99-2, uses
 RL: CAT (Catalyst use); USES (Uses)
 (with lanthanide; novel rare earth coordination catalyst for polymn.
 of
 biodegradable aliph. lactones and lactides)

IT 29770-44-3, Neodymium trifluoroacetate **37737-28-3**, Yttrium
trifluoroacetate 70236-92-9, Lanthanum trifluoroacetate 70236-94-1,
Praseodymium trifluoroacetate 70236-98-5, Holmium trifluoroacetate
70237-00-2, Thulium trifluoroacetate 87863-62-5, Ytterbium
trifluoroacetate
RL: CAT (Catalyst use); USES (Uses)
(with triisobutylaluminium; novel rare earth coordination catalyst for
polymn. of biodegradable aliph. lactones and lactides)

L20 ANSWER 26 OF 57 CA COPYRIGHT 2003 ACS
 AN 128:89129 CA
 TI Homo- and copolymerization of butadiene and styrene with neodymium tricarboxylate catalysts
 AU Kokayashi, Eiichi; Hayashi, Naoto; Aoshima, Sadahito; Furukawa, Junji
 CS Dep. Industrial Chem., Faculty Science Technology, Science Univ. Tokyo, Noda, Chiba, 278, Japan
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1998), 36(2), 141-247
 CODEN: JPACEC; ISSN: 0887-624X
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB Homo- and copolymn. of butadiene (BD) and styrene (ST) were carried out using rare-earth metal catalysts, including the most active Nd-based catalysts, and the cis-1,4-polymerization mechanism was investigated by diad anal. of the copolymers. The catalyst activity for BD was markedly affected not only by the ligands of the catalysts, but also by the central rare-earth metals, whereas that for ST was mainly affected by the ligands.
 For the catalysts Nd(OCOR)₃ (R = CF₃, CCl₃, CHCl₂, CH₂Cl and Me), Nd(OCOCCL₃)₃ was most active for BD; the activity decreased with increasing or decreasing pK_a value of the ligands. For Gd(OCOR)₃ catalysts, the CF₃ deriv. gave the highest activity for BD. For ST homo- and copolymn., the max. activities were attained with the CCl₃ deriv. for both Nd- and Gd-based catalysts. The copolymn. with Nd(OCOCCL₃)₃ catalyst was also carried out at various monomer feed ratios to evaluate monomer reactivity ratios. The cis-1,4 content decreased with increasing ST content in the copolymers. From the diad anal., the Nd(OCOCCL₃)₃ catalyst controls the cis-1,4 structure of the BD unit by back-biting coordination of the penultimate BD unit. Furthermore, the long range coordination of the polymer chain by the Nd catalyst assists the cis-1,4 polymerization.
 ST neodymium tricarboxylate catalyst butadiene styrene polymerization catalysts
 IT Polymerization catalysts
 (homo- and copolymn. of butadiene and styrene using neodymium tricarboxylate catalysts)
 IT Polymerization
 (mechanism of butadiene homo- and copolymn. using neodymium tricarboxylate catalysts)
 IT Reactivity ratio in polymerization
 (of butadiene with styrene using neodymium tricarboxylate catalysts)
 IT 6192-13-8, Neodymium acetate 20532-74-5, Neodymium chloroacetate 29770-44-3 31169-96-7, Gadolinium trichloroacetate 31233-86-0, Gadolinium dichloroacetate 42138-67-0, Praseodymium trichloroacetate 42138-70-5, Neodymium dichloroacetate **42138-71-6**, Neodymium trichloroacetate 42181-46-4, Praseodymium dichloroacetate 70236-94-1, Praseodymium trifluoroacetate 70236-96-3, Gadolinium trifluoroacetate 73794-14-6, Dysprosium dichloroacetate 73794-15-7, Dysprosium trichloroacetate
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst for homo- and copolymn. of butadiene and styrene)
 IT 100-42-5, Styrene, reactions 106-99-0, Butadiene, reactions
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(mechanism and reactivity ratios in homo- and copolymn. of butadiene
and styrene using neodymium tricarboxylate catalysts)
IT 9003-17-2P, Polybutadiene 9003-53-6P, Polystyrene 9003-55-8P,
Butadiene-styrene copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. using neodymium tricarboxylate catalysts)
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

L20 ANSWER 27 OF 57 CA COPYRIGHT 2003 ACS
 AN 126:317776 CA
 TI Synthesis and characterization of biodegradable
 .epsilon.-caprolactone/d,l-
 lactide copolymers
 AU Gan, Zhihua; Jing, Xiabin; Zhang, Jie
 CS Polymer Phys. Lab., Changchun Inst. Appl. Chem., Chinese Acad. Sci.,
 Changchun, 130022, Peop. Rep. China
 SO Yingyong Huaxue (1997), 14(2), 5-7
 CODEN: YIHUED; ISSN: 1000-0518
 PB Yingyong Huaxue Bianji Weiyuanhui
 DT Journal
 LA Chinese
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 37
 AB .epsilon.-Caprolactone/d,l-lactide copolymers with different compns. was
 synthesized with a novel rare earth coordination catalyst composed of
 yttrium trifluoroacetate Y(CF₃COO)₃ and triisobutylaluminum Al(i-Bu)₃,
 and
 characterized by GPC and ¹H NMR. The chem. compns. of the copolymer can
 be adjusted by changing the monomer wt. ratio in feed, and morphol. of
 the
 copolymer is influenced greatly by the compn.
 ST biodegradable caprolactone lactide copolymer; yttrium isobutylaluminum
 caprolactone lactide copolymn catalyst
 IT Polyesters, preparation
 FL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (aliph.; prepn. and characterization of biodegradable
 caprolactone-lactide copolymers)
 IT Polymers, preparation
 FL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (biodegradable; prepn. and characterization of biodegradable
 caprolactone-lactide copolymers)
 IT Polymerization catalysts
 (ring-opening; prepn. and characterization of biodegradable
 caprolactone-lactide copolymers)
 IT 100-99-2, Triisobutylaluminum, uses **37737-28-3**, Yttrium
 trifluoroacetate
 FL: CAT (Catalyst use); USES (Uses)
 (catalyst; in prepn. of biodegradable caprolactone-lactide copolymers)
 IT 70524-20-8P, .epsilon.-Caprolactone-dl-lactide polymer
 FL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and characterization of biodegradable caprolactone-lactide
 copolymers)

L20 ANSWER 29 OF 57 CA COPYRIGHT 2003 ACS
 AN 125:301699 CA
 TI Homo- and copolymerizations of butadiene and styrene with
 Ln(OCOCCL3)3-based catalyst
 AU Kaita, Shojiro; Kobayashi, Eiichi; Sakakibara, Sayuri; Aoshima,
 Sadahito;
 Furukawa, Junji
 CS Fac. Sci. Technol., Sci. Univ. Tokyo, Chiba, 278, Japan
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1996), 34(16),
 3431-3434
 CODEN: JPACEC; ISSN: 0887-624X
 PB Wiley
 DT Journal
 LA English
 CC 35-4 (Chemistry of Synthetic High Polymers)
 AB Polybutadiene, polystyrene, and butadiene styrene copolymers were prepd.
 in the presence of Ln(O2CCCL3)3-i-Bu3Al-Et2AlCl catalyst systems, where
 Ln
 = Pr, Nd, Gd, Dy, and Yb. The activity of the catalysts was Nd > Pr > Gd
 > Dy .apprx. Yb. The polymers contg. butadiene had predominately cis
 structures.
 ST lanthanide trichloroacetate polymn catalyst; praseodymium
 trichloroacetate
 polymn catalyst; neodymium trichloroacetate polymn catalyst; gadolinium
 trichloroacetate polymn catalyst; dysprosium trichloroacetate polymn
 catalyst; ytterbium trichloroacetate polymn catalyst; butadiene polymn
 catalyst lanthanide trichloroacetate; styrene polymn catalyst lanthanide
 trichloroacetate
 IT Polymerization catalysts
 (homo- and copolymns. of butadiene and styrene with
 Ln(OCOCCL3)3-i-Bu3Al-Et2AlCl catalyst)
 IT Chains, chemical
 (microstructure in homo- and copolymns. of butadiene and styrene with
 Ln(OCOCCL3)3-i-Bu3Al-Et2AlCl catalyst)
 IT 96-10-6, Diethylaluminum chloride, uses 100-99-2, Triisobutylaluminum,
 uses 16056-77-2, Gadolinium acetate 31169-95-6, Gadolinium
 chloroacetate 31169-96-7, Gadolinium trichloroacetate 31169-99-0
 31233-86-0, Gadolinium dichloroacetate 42138-67-0 **42138-71-6**
 70236-96-3, Gadolinium trifluoroacetate 73794-15-7
 RL: CAT (Catalyst use); USES (Uses)
 (homo- and copolymns. of butadiene and styrene with
 Ln(OCOCCL3)3-i-Bu3Al-Et2AlCl catalyst)
 IT 9003-17-2P, Polybutadiene 9003-53-6F, Polystyrene 9003-55-8P,
 Butadiene-styrene copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (homo- and copolymns. of butadiene and styrene with
 Ln(OCOCCL3)3-i-Bu3Al-Et2AlCl catalyst)

L20 ANSWER 30 OF 57 CA COPYRIGHT 2003 ACS
 AN 124:87878 CA
 TI Controlled polymerization of acrylates activated by lanthanoid triflates
 AU White, Daniela; Matyjaszewski, Krzysztof
 CS Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA,
 15213, USA
 SO Polymer Preprints (American Chemical Society, Division of Polymer
 Chemistry) (1995), 36(2), 286-7
 CODEN: ACPPAY; ISSN: 0032-3934
 PB American Chemical Society, Division of Polymer Chemistry
 DT Journal
 LA English
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB This paper presents the results obtained in the polymn. of Me
 methacrylate
 and Me and Bu acrylates initiated by the group-transfer catalyst
 1-methoxy-2-methyl-1-(trimethylsilyloxy)-1-propene using Sm, Ln, and Y
 triflates as cocatalysts in THF and CH₂Cl₂ at room temp. Kinetic plots
 and polymer mol. wts. were presented.
 ST acrylic polymn group transfer; catalyst polymn group transfer; lanthanoid
 triflate catalyst polymn
 IT Polymerization catalysts
 (group-transfer, lanthanoid triflates; for acrylic monomers)
 IT Kinetics of polymerization
 (group-transfer, of acrylic monomers in the presence of lanthanoid
 triflates)
 IT 2263-49-2, Samarium tris(trifluoroacetate) 31469-15-5 **37737-28-3**
 , Yttrium tris(trifluoroacetate) 70236-92-9, Lanthanum
 tris(trifluoroacetate)
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalyst for; prepn. of acrylic polymers with narrow
 polydispersities by group-transfer polymn.)
 IT 80-62-6, Methyl methacrylate 96-33-3, Methyl acrylate 141-32-2, Butyl
 acrylate
 RL: PEP (Physical, engineering or chemical process); PRP (Properties);
 RCT
 (Reactant); PROC (Process); RACT (Reactant or reagent)
 (kinetics of group-transfer polymn. in the presence of lanthanoid
 triflates)
 IT 9003-21-8P, Poly(methyl acrylate) 9003-49-0P, Poly(butyl acrylate)
 9011-14-7P, PMMA
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of acrylic polymers with narrow polydispersities by
 group-transfer polymn.)
 IT 75-09-2, Methylene chloride, uses 109-99-9, THF, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent for; prepn. of acrylic polymers with narrow polydispersities
 by group-transfer polymn.)

L20 ANSWER 33 OF 57 CA COPYRIGHT 2003 ACS
 AN 120:31318 CA
 TI Ring-opening polymerization of tetrahydrofuran with rare earth-contained catalysts
 AU Li, Fengfu; Jin, Yingtai; Pei, Fengkui; Wang, Fosong
 CS Changchun Inst. Appl. Chem., Acad. Sin., Changchun, Peop. Rep. China
 SO Journal of Applied Polymer Science (1993), 50(11), 2017-20
 CODEN: JAPNAB; ISSN: 0021-8995
 DT Journal
 LA English
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB Rare earth trifluoroacetates, $\text{Ln}(\text{CF}_3\text{CO}_2)_3$ ($\text{Ln} = 13$ rare earth elements), combined with $\text{RnAlH}_3\text{-n}$ ($\text{R} = \text{Me}$, octyl, $n = 3$; $\text{R} = \text{Et}$, iso-Bu, $n = 2, 3$) were used as catalysts for the polymn. of THF. The activity increased by adding propylene oxide (I), as a promoter, to the polymn. system, producing high mol. wt. polytetrahydrofuran (PTHF). The effects of Ln , I/Ln ratio, Al/Ln ratio, and other factors on the polymn. of THF were also studied.
 ST THF polymn. catalyst rare earth; ring opening polymn. THF
 IT Polymerization catalysts
 (ring-opening, rare earth trifluoroacetate-based, for THF)
 IT 75-56-9, Propylene oxide, uses 2263-49-2, Samarium tris(trifluoroacetate) 29770-44-3, Neodymium tris(trifluoroacetate) **37737-28-3** 58097-52-2, Terbium tris(trifluoroacetate) 70236-92-9 70236-93-0 70236-94-1 70236-95-2, Europium tris(trifluoroacetate) 70236-96-3 70236-97-4, Dysprosium tris(trifluoroacetate) 70236-98-5, Holmium tris(trifluoroacetate) 70236-99-6, Erbium tris(trifluoroacetate) 70237-00-2, Thulium tris(trifluoroacetate)
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts contg., for polymn. of THF)
 IT 75-24-1, Trimethylaluminum 97-93-3, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 871-27-2, Diethylaluminum hydride 1070-00-4, Trioctylaluminum 1191-15-7, Diisobutylaluminum hydride
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, contg. rare earth trifluoroacetates, for polymn. of THF)
 IT 24979-97-3P, Poly(tetrahydrofuran)
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, rare earth trifluoroacetate-based catalysts for)

L20 ANSWER 34 OF 57 CA COPYRIGHT 2003 ACS
 AN 119:271733 CA
 TI Ring opening polymerization of tetrahydrofuran with rare earth catalysts
 AU Li, Fengfu; Jin, Yingtai; Guan, Weigang; Pei, Fengkui; Wang, Fosong
 CS Changchun Inst. Appl. Chem., Acad. Sin., Changchun, 130022, Peop. Rep. China
 SO Cuihua Xuebao (1993), 14(4), 329-32
 CODEN: THHPD3; ISSN: 0253-9337
 DT Journal
 LA Chinese
 CC 35-3 (Chemistry of Synthetic High Polymers)
 AB Trifluoroacetates of rare earth (CF₃CO₂)₃Ln (Ln = Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, and Tm) combined with alkylaluminum RnAlH_{3-n} (R = Me, octyl, n = 3; R = Et, iso-Bu, n = 3,2) were first used as catalysts for the ring-opening polymn. of THF. The activity was greatly increased by adding promoter (PE) to the catalyst system, and was decreased by adding a small amt. of water. This catalyst system was favorable for the polymn. of THF with high activity, and high-mol.-wt.
 poly(tetrahydrofuran)
 could be obtained. The effects of Ln, Al/Ln, PE/Ln, RnAlH_{5-n} and temp. etc. on the polymn. activity were also studied.
 ST THF ring opening polymn catalyst; rare earth catalyst polymn THF; aluminum
 catalyst polymn THF; polytetrahydrofuran prepn catalyst
 IT Rare earth metals, compounds
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, contg. aluminum, for ring-opening polymn. of THF)
 IT Polyoxyalkylenes, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, catalysts for, aluminum-rare earth metal compds. as)
 IT Polymerization catalysts
 (ring-opening, aluminum-rare earth metal compds., for THF)
 IT 7732-18-5, Water, uses
 RL: USES (Uses)
 (activity of aluminum-rare earth metal compd. catalysts for ring-opening polymn. of THF in presence of)
 IT 2263-49-2 29770-44-3 **37737-28-3**, Yttrium trifluoroacetate
 59097-52-2 70236-92-9 70236-93-0 70236-94-1 70236-95-2
 70236-96-3 70236-97-4 70236-98-5 70236-99-6 70237-00-2
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, contg. aluminum, for ring-opening polymn. of THF)
 IT 75-24-1, Trimethylaluminum 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 871-27-2, Diethylaluminum hydride
 1070-00-4,
 Trioctylaluminum 1191-15-7, Diisobutylaluminum hydride
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, contg. rare earth compds., for ring-opening polymn. of THF)
 THF)
 IT 24979-97-3P, THF homopolymer 25190-06-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, catalysts for, aluminum-rare earth metal compds. as)
 IT 151438-87-8, PE (promoter)
 RL: USES (Uses)
 (promoters, for aluminum-rare earth metal compd. catalysts, for ring-opening polymn. of THF)

L13 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2003 ACS
RN 4389-22-4 REGISTRY
CN 1,3-Benzodioxol-2-one, hexahydro- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Carbonic acid, 1,2-cyclohexylene ester (6CI)**
CN **Carbonic acid, cyclic 1,2-cyclohexylene ester (8CI)**
OTHER NAMES:
CN **Cyclohexene carbonate**
FS 3D CONCORD
MF **C7 H10 O3**
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
CHEMINFORMRX, USPATFULL
(*File contains numerically searchable property data)

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

14 REFERENCES IN FILE CA (1957 TO DATE)
14 REFERENCES IN FILE CAPLUS (1957 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN 42138-71-6 REGISTRY
CN **Acetic acid, trichloro-, neodymium(3+) salt (9CI)** (CA INDEX NAME)

OTHER NAMES:

CN **Neodymium trichloroacetate**
CN **Neodymium tris(trichloroacetate)**
MF C2 H Cl3 O2 . 1/3 Nd
LC STN Files: CA, CAPLUS, GMELIN*, USPATFULL
(*File contains numerically searchable property data)
CRN 76-03-9)

Cl

Cl C CO₂H

Cl

●1/3 Nd(III)

18 REFERENCES IN FILE CA (1957 TO DATE)
18 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **37737-28-3** REGISTRY
CN **Acetic acid, trifluoro-, yttrium(3+) salt (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN **Tris(trifluoroacetato)yttrium**
CN **Yttrium trifluoroacetate**
CN **Yttrium tris(trifluoroacetate)**
MF C2 H F3 O2 . 1/3 Y
LC STN Files: CA, CAPLUS, CHEMCATS, CSCHM, USPATFULL
CRN 76-05-1)

F

F C CO₂H

F

●1/3 Y(III)

39 REFERENCES IN FILE CA (1957 TO DATE)
39 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN 20101-72-8 REGISTRY
CN **Acetic acid, dichloro-, yttrium(3+) salt (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:

CN Yttrium dichloroacetate
MF C2 H2 Cl2 O2 . 1/3 Y
LC STN Files: CA, CAPLUS, USPATFULL
CRN (79-43-6)

Cl

Cl CH⁻ CO₂H

● 1/3 Y(III)

4 REFERENCES IN FILE CA (1957 TO DATE)

4 REFERENCES IN FILE CAPLUS (1957 TO DATE)